



**Environmental Consulting & Technology, Inc.**

July 10, 2013

Mr. Eric Bowman  
Environmental Quality Management, Inc.  
1800 Carillon Boulevard  
Cincinnati, Ohio 45240

RE: EQ Project Number 030281.0087, Indiana Bat Study for Portage Creek Contaminated Sediment Site, City of Kalamazoo, Kalamazoo County, Michigan

Dear Mr. Bowman:

Enclosed is a proposal response to the Environmental Quality Management, Inc. (EQ) request for proposal number 87-024, dated June 28, 2013. The project involves an Indiana Bat Study for the Portage Creek Contaminated Sediment Removal Area SA1A. The project is located in the City of Kalamazoo, Kalamazoo County, Michigan. Information within this submittal includes:

- General description of approach
- Specific equipment type and quantities to perform operations
- Assessment and survey procedures
- Equipment descriptions for acoustic survey including quantity, make and model
- Project schedule and costs
- Investigator qualification summary and resume

Should you require additional information or if you have any questions, please do not hesitate to contact me.

Sincerely,

**ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.**

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## Portage Creek Sediment Remediation Project Indiana Bat Study

### Project Overview

The Portage Creek Sediment Remediation Project Indiana Bat Study (“the Study”) is a presence/absence survey for the federally-endangered Indiana myotis (*Myotis sodalis*) that is to be conducted at the confluence of the Portage Creek and the Kalamazoo River on a section known as Slope Area 1A (SA1A). The Study is required under the U.S. Endangered Species Act to determine the appropriate timing of clearing, grubbing, and associated pre-dredging construction work currently underway by Environmental Quality Management, Inc. (‘EQ’). The overall Study Area is divided into two sections north and south of the Michigan Avenue within the city limits of Kalamazoo (Fig. 1). The north section of the Study Area is a 1.6 acre parcel containing the western portion of Veteran’s Memorial Park, the eastern portion of the Starworld Amusement Building lot, and the riparian buffer between the eastern side of the Starworld Amusement property and the Portage Creek. The area south of Michigan Avenue includes a 0.5 acre parcel that includes the western portion of Veteran’s Memorial Park, including the eastern side of the riparian corridor of the Portage Creek.

The Study Area contains a riparian corridor of deciduous trees, as well as open water habitat, a mixture of open park habitat and urban disturbed habitat with a high degree of impervious surface and non-vegetated habitat.

### The Indiana Myotis

The U.S. Fish & Wildlife Service listed the Indiana myotis as federally-endangered in 1967 because of dramatic population declines and destruction of key maternity roosts and hibernacula (Trumbulak et al., 2001; Clawson, 2002). Despite almost forty years of protection, Indiana myotis populations continue to decline in their core range, although the cause of the decline is unknown (Clawson, 2002). Indiana myotis spend the winter months hibernating in caves and abandoned mines throughout the eastern United States. Upon emergence from these hibernacula in the spring, Indiana myotis migrate to their summer range, whereupon

adult females form reproductive colonies to raise their young. These 'maternity' colonies remain relatively intact from June through August and utilize tree roosts (usually under exfoliating bark or in cavities: Kurta & Rice, 2002) located in riparian, floodplain and bottomland forest habitat (Evans et al., 1998). Indiana myotis roost trees are deciduous, typically large (greater than 36 cm dbh), tall, near water, and in direct sunlight most of the day (Kurta et al., 1993; Menzel et al., 2001; Kurta & Rice, 2002). In addition to larger primary roost trees, maternity groups generally rely on multiple 'secondary roost' trees throughout the summer months (Evans et al., 1998; Clawson et al., 1999; Hicks, 2003). Adult males are believed to live alone or in small groups under exfoliating bark (Ford et al., 2002). Foraging by the Indiana myotis is generally concentrated in riparian habitat, including creeks and narrow waterways (Humphrey et al., 1977; Ford et al., 2005; USFWS, 2007), although there is growing evidence that they are more diverse in habitat selection (Menzel et al., 2001; Carroll et al., 2002).

### **The Indiana Bat Recovery Team Guidelines**

To help document the status and facilitate the recovery of Indiana myotis, the Indiana Bat Recovery Team has released multiple Recovery Plans and Survey Guidelines (Clawson et al., 1999; USFWS, 2007; USFWS, 2013). The current Summer Survey Guidelines (May 2013) identify the general protocol for conducting biological surveys that focus on Indiana myotis. The Guidelines define the appropriate timing of the survey (May 15 – August 15), sampling methodology (acoustic monitoring and mist-netting), and sampling conditions (nightly temperature, precipitation, etc.) to reliably determine the presence or likely absence of Indiana myotis within a study area. The Guidelines also require that a qualified professional conduct the work, and that such contractors obtain both state and federal permits to capture and handle Indiana myotis and have proven proficiency in identifying Indiana myotis and using the appropriate research techniques.

### **Desktop and Field-Based Habitat Assessment**



ECT will conduct a desktop and Field-Based Habitat Assessment to determine whether suitable summer habitat exists within the Study Area and whether pre-dredging removal activities would negatively impact that habitat. The Habitat Assessment will document the size and species composition of the dominant canopy trees within the Portage Creek riparian corridor. Specifically, this will include documenting the presence of potential primary and secondary roost trees with the Study Area. Although the Indiana myotis are highly flexible in the trees that they will occupy, they generally are limited to areas with deciduous trees of significant size ( $\geq 22$  cm dbh) and density ( $\geq 12$  trees/ha) in a habitat that is heterogeneous in terms of forest cover (20% - 60% forested: Farmer et al., 2002).

The Desktop Analysis will include a summary of the published and grey literature available for Indiana myotis activity within Michigan in general, and Kalamazoo County in particular. This will include, but not be limited to, informal consultation with the Michigan Department of Natural Resources and bat biologists within the region. The Field-Based Assessment will include an on-site habitat survey documenting the suitability of the Study Area as potential roosting habitat for Indiana myotis. This will include, but not be limited to, documenting tree size and density within the riparian corridor of the Portage Creek and a survey of accessible human structures (buildings, bridges, and other structures) that could act as day- or night-roosting habitat for Indiana myotis.

#### **Acoustic Monitoring Survey**

To document the presence/absence of Indiana myotis within the Study Area, ECT recommends an acoustic monitoring survey consistent with the Range-Wide Indiana Bat Summer Survey Guidelines produced by the U.S. Fish and Wildlife Service (USFWS, 2013). This Guideline defines the appropriate timing of the survey (May 15 – August 15) and minimum sampling effort that would be considered adequate to document the presence of Indiana myotis (*Myotis sodalis*). Specifically, ECT would follow the Phase 2 Acoustic Survey guidelines that require a qualified surveyor to conduct night sampling of the Study Area using ultrasonic microphones that detect and record the echolocation calls of foraging and commuting bats. The equipment calibration, equipment setup, and total survey effort are outlined in the

Guidelines, but for this project would entail a minimum of six (6) detector-nights across two sampling nights.

Based on the information provided by the EQM, the Study Area is significantly less than the 123 acres of potential bat habitat that require the minimum sampling effort of six detector-nights. However, ECT suggests that this low level of effort is neither cost-effective nor biologically appropriate given that at least five different habitats are identifiable in the RFP (riparian corridor, open water, open park, forested trails, and urban disturbed habitat). Consequently, ECT proposes to conduct a minimum of 20 detector-nights of effort using a minimum of 10 detectors per night. This high-intensity sampling approach will focus on the riparian habitat, Portage Creek habitat, and field edge habitat likely used by commuting and foraging bats. Because previous research has shown that Indiana myotis prefer foraging in woodland habitat compared to open water habitat and show a slight avoidance of open park habitat and high density residential and commercial habitat (Sparks et al., 2005), the sampling locations will include at least five riparian, open water, and field edge sites per night, with some sampling to be conducted in each of the identified habitats. The proposal is consistent with other acoustic monitoring surveys conducted by ECT (Reynolds 1999; Reynolds 2000; Reynolds 2001; LaGory et al. 2002; Jaycox et al., 2003; Veilleux et al. 2009).

### **Meetings and Consulting**

ECT anticipates the need to consult with EQM, Michigan Department of Natural Resources, U.S. Fish and Wildlife Service, and possibly the U.S. Environmental Protection Agency to complete the proposed Scope of Work. The budget reflects five hours of consultation time and provides an hourly rate for additional consultation time if authorized by EQM.

### **Equipment Specifications**

ECT utilizes Titley <sup>TM</sup> ultrasonic acoustic monitors (both Anabat II and Anabat SD1 units) with a detached microphone and self-contained power and data recording system. Each unit will record acoustic calls from 18:00 – 08:00 nightly with the data stored on internal CF-Card memory cards. Each system would be deployed in the field in a weather-tight housing

with the microphone set up at 1.5m above the ground and facing parallel to the ground. Recorded calls will be collected from each recording system, filtered for noise, and analyzed for species and phonic-group identification using EchoClass 2.0 or BCID automated call identification software.

### **Schedule**

ECT will commence work on the project within three business days of a written Notice to Proceed and the issuance of a purchase order number with billing contact information. ECT will complete the field-based component of the project within 10 business days of said Notice.

ECT will submit a written invoice to EQM, Inc. upon completion of the project, with payment terms of net 45-60 days from receipt of the invoice.



## **PRINCIPAL INVESTIGATOR QUALIFICATIONS**

### **D. Scott Reynolds, Ph.D.** Principal, North East Ecological Services (Bow, NH)

Dr. Reynolds has twenty years of academic and field experience with bats in the United States and Canada. As the founder and Principal of North East Ecological Services, LLC, Dr. Reynolds has been the principal investigator for a variety of endangered species and woodland bat surveys. Dr. Reynolds is currently on the Science Faculty at St. Paul's School in Concord, NH and a Visiting Researcher at Boston University in Boston, MA. In addition, Dr. Reynolds has been an Adjunct Faculty member at Antioch New England Graduate School, where he taught a field course on the biology of bats. Previous contract and grant experience includes state agencies (New Hampshire Fish & Game, Vermont Fish & Wildlife, New York Department of Environmental Conservation), federal agencies (U.S. Forest Service, U.S. Department of the Interior, and U.S. Fish & Wildlife Service), non-profit organizations (Vermont Institute of Natural Sciences, Bat Conservation International, New York Natural Heritage, and Massachusetts Audubon Society), and for-profit institutions (Vermont Electric Power Company, Midwest Energy, LLC, Noble Renewable Power, LLC). Dr. Reynolds is an active member in Bat Conservation International, the North American Symposium on Bat Research (NASBR), the American Society of Mammalogists (ASM), and the Wildlife Society. Dr. Reynolds is a Certified Senior Ecologist with the American Ecological Society and is the current President of the Northeast Working Group on Bats (NEWGB). Dr. Reynolds has multiple publications on the biology of bats and recently authored peer-reviewed papers on the impact of wind development on bats in New York State and the impact of White-Nose Syndrome on bats in New England. Dr. Reynolds has conducted multiple mist-net and acoustic monitoring-based surveys for state- and federally-listed endangered species including the Indiana myotis, in New Hampshire, New Jersey, New York, Pennsylvania, and Maine. Dr. Reynolds also has experience working with both state and county commissions for legal proceedings that involve the preparation of evidentiary documents and expert witness testimony.

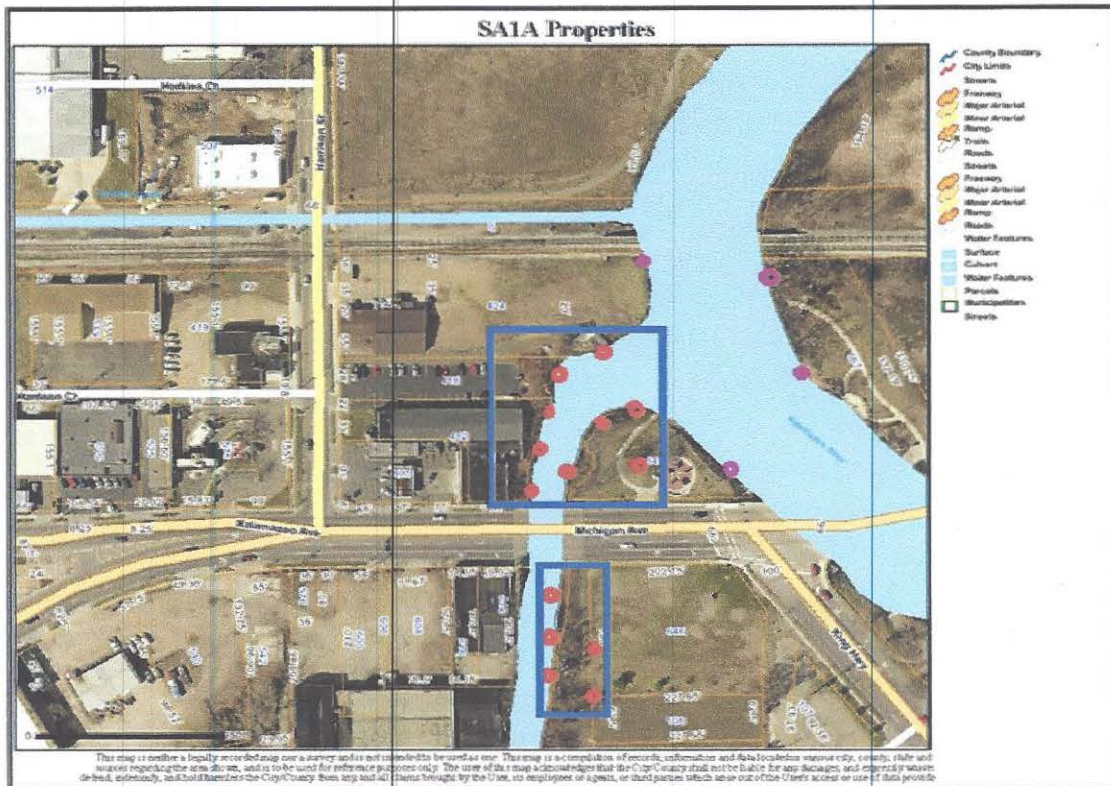
### Literature Cited:

- Carroll, S.K., T.C. Carter, and G.A. Feldhamer, 2002. Placement of nets for bats: effects on perceived fauna. *Southeastern Naturalist* 1: 193-198.
- Clawson, R.L., V. Brack, R. Currie, M. Harvey, S. Johnson, A. Kurta, J. MacGregor, C. Stihler, M. Tuttle, G. Houf, and K. Tyrell, 1999. Indiana bat (*Myotis sodalis*) revised recovery plan.
- Clawson, R.L., 2002. Trends in population size and current status Pp. 2-8 *In*: A. Kurta and J. Kennedy (eds.) *The Indiana Bat: Biology and Management of an Endangered Species*. Bat Conservation International: Austin, Texas.
- Evans, D. E., W.A. Mitchell, and R.A. Fischer. 1998. Species profile: Indiana bat (*Myotis sodalis*) on military installations in the southeastern United States USACE Technical Report SERDP-98-3.
- Farmer, A.H. et al., 2002. Evaluation of a habitat suitability index model Pp. 172-179 *In*: A. Kurta and J. Kennedy (eds.) *The Indiana Bat: Biology and Management of an Endangered Species*. Bat Conservation International: Austin, Texas.
- Ford, W.M., J. Menzel, M. Menzel, and J.W. Edwards. 2002. Summer roost-tree selection by a male Indiana bat on the Fernow Experimental Forest. U.S. Department of Agriculture Report GTR NE-378, 7 pp.
- Ford, W.M. M. Menzel, J.L. Rodrigue, J. Menzel, and J.B. Johnson, 2005. Relating bat species presence to simple habitat measures in a central Appalachian forest. *Biological Conservation*, 126: 528-539.
- Hicks, A. 2003. Indiana bat (*Myotis sodalis*) protection and management in New York State: Fiscal Year April 01, 2002 - April 01, 2003 Annual Report (Project W-166-E), 21 pp.
- Humphrey, S.R., A.R. Richter, and J.B. Cope. 1977. Summer habitat and ecology of the endangered Indiana bat, *Myotis sodalis*. *Journal of Mammalogy* 58: 334-346.
- Jaycox, J., 2003. Indiana bat (*Myotis sodalis*) survey at West Point military reservation. Report for the United States Military Academy Natural Resources Branch, 122 pp.



- Kurta, A., D. King, J.A. Teramino, J.M. Stribley, and K. Williams, 1993. Summer roosts of the endangered Indiana bat (*Myotis sodalis*) on the northern edge of its range. *American Midland Naturalist* 129: 132-138.
- Kurta, A. and H. Rice. 2002. Ecology and management of the Indiana bat in Michigan. *Michigan Academician*, 34:175-190.
- LaGory, K.E., D.S. Reynolds, and J.A. Kuiper. 2002. A survey of the bats of New Boston Air Force Station, New Hampshire. Unpublished Report to the U.S. Department of the Air Force. 32 pp.
- Menzel, M.A., J.M. Menzel, T.C. Carter, W.M. Ford, J.W. Edwards. 2001. Review of the forest habitat relationships of the Indiana bat (*Myotis sodalis*). General Technical Report NE-284. U.S. Department of Agriculture, Newtown Square, Pennsylvania.
- Reynolds, D.S., 1999. The distribution of New Hampshire bat species through remote acoustic monitoring. Report prepared for the United States Fish & Wildlife Service.
- Reynolds, D.S., 2000. Woodland bat survey of the Green Mountain National Forest. Report prepared for the Green Mountain National Forest, 18 pp.
- Reynolds, D.S., 2001. Bat Biodiversity Survey: Marsh-Billings-Rockefeller National Historic Park. Prepared for the Vermont Institute of Natural Sciences, 11 pp.
- Trombulak, S., P.E. Higuera, and M. Desmeules, 2001. Population trends of wintering bats in Vermont. *Northeastern Naturalist* 8:51-62.
- [USFWS] U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.
- [USFWS] U.S. Fish and Wildlife Service. 2013. 2013 Revised Range-wide Indiana Bat Summer Survey Guidelines, Final Draft. U.S. Fish and Wildlife Service. Fort Snelling, MN, May 2013.
- Veilleux, J.P., P.R. Moosman, Jr., D.S. Reynolds, K.E. LaGory, and L.J. Walston, Jr. 2009. Observations of summer roosting and foraging behavior of a hoary bat (*Lasiurus cinereus*) in southern New Hampshire. *Northeastern Naturalist*. 16: 148-152.

**FIGURE 1: Study Area and Potential Monitoring Locations at the Portage Creek SA1A**



#### **EDUCATION and CERTIFICATIONS**

Ph.D., 1999. Physiological Ecology of Temperate Bats, Boston University; Boston, Massachusetts  
B.Sc., 1991. Biology with Environmental Science minor, McGill University: Montréal, Quebec Canada.  
Certified Senior Ecologist. Board of Professional Certification of the Ecological Society of America

#### **EMPLOYMENT**

North East Ecological Services: Managing Partner: 1998 - present  
St. Paul's School: Faculty in the Science Division: 2000 - present  
Boston University: Research Fellow, Department of Biology: 2009 - present  
Allegro Microsystems, Inc.: Facilities Systems Consultant: 1993 - 1999  
Occupational Health and Safety Coordinator: 1991-1993  
Environmental Compliance Coordinator: 1991-1992

#### **PROFESSIONAL MEMBERSHIPS**

American Society of Mammalogists: 1992 - present  
North East Bat Working Group: 1996 - present  
Sigma Xi: 1997 - present  
National Science Teachers Association: 2001 - present  
Ecological Society of America: 2004 - present  
Wildlife Society: 2006 - present

#### **PROFESSIONAL ACTIVITIES**

North East Bat Working Group, President: 2013-2015  
North East Bat Working Group, Member: 2003 - present

#### **RESEARCH EXPERIENCE (since 2005)**

##### **Project Risk Assessment for Bats: (completed date)**

Four Mile Wind Project (Garrett County, MD): Synergics Energy: 2013  
Grande Prairie Wind Project (Knox County, NE): Midwest Energy, LLC: 2012  
Port Jersey Wind Project (Hudson County, NJ): Port Authority NYNJ: 2011  
Fisherman's Atlantic City Wind Project (Atlantic County, NJ): Fisherman's Energy: 2010  
Cape May Wind Project (Cape May County, NJ): US Coast Guard: 2009  
Dutch Hill Wind Project (Potter County, PA): STK Renewable Energy, Inc.: 2007  
Chestnut Flats Wind Project (Blair County, PA): Gamesa Energy, USA: 2007  
Grandview Wind Project (Edgar County, IL): PPM Energy, LLC: 2007  
Chugwater Wind Project (Platte County, WY): Community Energy, Inc: 2007  
Tarkio Wind Energy Project (Atchinson County, MO): Community Energy, Inc: 2007  
Locust Ridge Wind Project (Schuylkill County, PA): Community Energy, Inc.: 2006  
Post Oak Wind Project (Shackelford County, TX): Horizon Wind Energy: 2006  
Shiloh II Wind Project (Solano County, CA): enXco Development Corporation: 2006  
Liberty Gap Wind Project (Pendleton County, WV): US Wind Force, LLC: 2005  
Highland New Wind Development (Highland County, VA): Highland New Wind, LLC: 2005



## RESEARCH EXPERIENCE (since 2005), cont.

### Pre- and Post-Construction Bat Inventories and Migratory Surveys: (completed date)

Garden Peninsula Wind Project (Delta County, MI): Heritage Wind Energy, 2013  
Atlantic City Wind Project (Atlantic County, NJ): Fisherman's Energy, 2012  
Maple Ridge Wind Project (Lewis County, NY): Iberdrola Renewables, 2010  
Wethersfield Wind Project (Wyoming County, NY): Noble Environmental Power: (2010)  
Bear Creek Wind Project (Luzerne County, PA): Babcock & Brown Renewable Holdings, 2009  
Hounsfield Wind Project (Jefferson County, NY): Babcock & Brown, 2009  
Sweden Wind Project (Potter County, PA): STK Renewable Energy, Inc., 2009  
Chestnut Flats Wind Project (Blair County, PA): Gamesa Energy, USA: 2007  
Laurel Hill Wind Project (Lycoming County, PA): Catamount Energy, LLC: 2007  
Highland New Wind Development (Highland County, VA): 2006

### Endangered Species Inventory Surveys

New Boston Air Force Station (Merrimack County, NH): 2002, 2006, 2007, 2010, 2011, 2012, 2013)  
Four Mile Wind Project (Garrett County, MD): Synergics Renewables, LLC: 2010, 2012  
Chestnut Flats Wind Project (Blair County, PA): Gamesa Energy, USA: 2008  
Green Brook Flood Damage Reduction Project (Somerset County, NJ): NEA, Inc., 2007  
West Point Military Reservation (Westchester County, NY): United States Marine Corp: 2002  
Marsh-Billings National Park (Windsor County, VT): Vermont Institute of Natural Science: 2001  
Green Mountain National Forest (VT): US Forest Service: 2000  
Finger Lakes National Forest (NY): US Forest Service: 2000

### Conservation Biology and Habitat Mitigation

Critical Maternity Colony Relocation in Cornish (Sullivan County, NH): NH Fish & Game: 2005  
Vermont Electric Company Northwest Reliability Project: VELCO: 2004  
Population Survey of Hibernating Bats in New Hampshire: NH Fish & Game: 1999

## RESEARCH GRANTS

Population Survey of the bats of New Boston Air Force Station (US Fish and Wildlife Service), 2012  
Transect-based Acoustic Monitoring of a Bat Community (US Fish and Wildlife Service), 2011  
New Hampshire Winter Bat Population Surveys (NHFG): 2000, 2005, 2008, 2009, 2010  
Maple Ridge Post-Construction Monitoring Project (NYSERDA and NJ Audubon): 2007-2009  
New Hampshire Comprehensive Plan for Bats (New Hampshire Department of Fish and Game): 2004  
North American Bat Conservation Partnership (Bat Conservation International): 1999, 1998  
Grants-in-Aid of Research (Sigma Xi): 1996, 1993  
Theodore Roosevelt Grant (American Museum of Natural History): 1996

## PROFESSIONAL PRESENTATIONS

The use of mobile platforms to conduct pre-construction acoustic monitoring at off-shore wind project sites.  
North East Bat Working Group, Albany, New York: 2013  
Temporal and spatial patterns of bat activity at a large-scale wind energy facility. North American Symposium on Bat Research, San Juan, Puerto Rico: 2012.  
The value of long-term banding for White-Nose Syndrome surveillance and research. White-Nose Syndrome Symposium, Little Rock, Arkansas, 2011.  
Re-evaluating the role for banding in the population biology of bats. North American Symposium on Bat Research, Denver, Colorado: 2010.  
The hibernating bats of New Hampshire: Are we climbing to the edge of a cliff? North American Symposium on Bat Research, Portland, Oregon: 2009.  
The Impact of White-Nose Syndrome on the bats of New Hampshire. White-Nose Syndrome Symposium, Pittsburgh, Pennsylvania: 2009.  
The value of long-term mark-recapture data for determining the population dynamics of the little brown myotis *Myotis lucifugus*: North American Symposium on Bat Research, Scranton, Pennsylvania: 2008.  
The potential value of pre-construction surveys for predicting bat fatality at wind facilities: North American Symposium on Bat Research, Merida, Mexico: 2007  
Monitoring the potential impact of wind development for bats in the Northeast: North East Bat Working Group, East Stroudsburg, Pennsylvania: 2006.

- The use of passive acoustic monitoring as a biological assessment tool for surveying migratory patterns of bats in relation to wind power development: Annual Meeting of the International Ecology Society and the Ecological Society of America, Montréal, Quebec Canada: 2005.
- Pre-Construction Assessment of Habitat Use by Bats at the Flat Rock Wind Power Facility, New York: North American Symposium on Bat Research, Salt Lake City, Utah: 2004.
- Long-Term Life History Analysis in *Myotis lucifugus*: North American Symposium on Bat Research, Burlington, Vermont: 2002.
- Data Management in the Study of Temperate Bats: North East Working Group on Bats, Burlington, Vermont: 2002.
- Changes in Body Composition During Reproduction and Postnatal Growth in the Little Brown Bat *Myotis lucifugus*, Using Direct and Indirect Analytical Techniques: North American Symposium on Bat Research, Hot Springs, Arkansas: 1998.
- The Validation of Total Body Electrical Conductivity Analysis (TOBEC) to Assess Body Composition in *Myotis lucifugus*. North American Symposium on Bat Research, Bloomington, Illinois: 1998.
- The Use of Modular Artificial Roosts in the Conservation and Management of a *Myotis lucifugus* Colony in Central Massachusetts. North American Symposium on Bat Research, Gainesville, Florida: 1996.

#### OTHER PRESENTATIONS

- Why Bats Hit Wind Turbines? New Hampshire Audubon Environmental Lecture Series: 26 July, 2007
- Studying Bats in New Hampshire: *Front Porch* interview series, New Hampshire Public Radio: 08 August, 2002
- House-Roosting Bat Research and Issues in New Hampshire: New Hampshire Public Television: 2001

#### PUBLICATIONS

- Reynolds, D.S.** 2012. Multi-year acoustic monitoring of bats at the Maple Ridge Wind Project. Report submitted to New York State Energy Research and Development Authority NYSEERDA Grant 10498
- Hein, C., E. Arnett, M. Schirmacher, M.M.P. Huso, and **D. S. Reynolds**. 2011. Patterns of pre-construction bat activity at the proposed Hoosac wind facility, Massachusetts, 2006-2007. A final project report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International, Austin, Texas.
- Frick, W.F., J.F. Pollock, A.C. Hicks, K. Langwig, **D.S. Reynolds**, G.C. Turner, C. Butchkoski, and T.H. Kunz. 2010. A common bat experiences drastic decline in the northeastern U.S.A. from a fungal pathogen. *Science*, 329: 679-682.
- Frick, Winifred F., **D.S. Reynolds**, and T.H. Kunz. 2010. Influence of climate and reproductive timing on demography of little brown myotis *Myotis lucifugus*. *Journal of Animal Ecology*, 79: 128-136.
- Reynolds, D.S.**, J. Sullivan, and T.H. Kunz. 2009. Evaluation of total body electrical conductivity to estimate body composition of a small mammal. *Journal of Wildlife Management*, 73: 1197-1206.
- Reynolds, D.S.** and C. Korine, 2009. Body Composition Analysis. In: T.H. Kunz and S. Parsons (eds). *Ecological and Behavioral Methods for the Study of Bats*. Johns Hopkins University Press, in press.
- Veilleux, J.P., P.R. Moosman, Jr., **D.S. Reynolds**, K.E. LaGory, and L.J. Walston, Jr. 2009. Observations of summer roosting and foraging behavior of a hoary bat (*Lasiurus cinereus*) in southern New Hampshire. *Northeastern Naturalist*, 16: 148-152.
- LaGory, K.E., L.J. Walston, and **D.S. Reynolds**, 2008. Radiotelemetry study of eastern small-footed bats and a hoary bat at New Boston Air Force Station, New Hampshire. University of Chicago, Argonne National Laboratory, Chicago, Illinois.
- Reynolds, D.S.**, 2007. Batting 4000. *New Hampshire Wildlife Journal*, 20 (2):8-12.
- Reynolds, D.S.**, 2006. Monitoring the potential impact of a wind development site on bats in the Northeast. *Journal of Wildlife Management*, 70: 1219-1227.
- Kunz, T.H. and **D.S. Reynolds**, 2004. Bat colonies in buildings. In: *Monitoring Trends in Bat Populations of the U.S. and Territories: Problems and Prospects* (T.J. O'Shea & M.A. Bogen, eds.) U.S. Geological Survey, Biological Resources Division, Information and Technology Report, Washington D.C.
- Reynolds, D.S.** and T.H. Kunz, 2001. Standard Methods For Destructive Body Composition Analysis. *Body Composition Analysis of Animals* (J. Speakman, ed.). Cambridge University Press.
- Reynolds, D.S.** and T.H. Kunz, 2000. Changes in Body Composition During Postnatal Growth and Reproduction in the Little Brown Bat, *Myotis lucifugus*. *Ecoscience*: 7: 10-17.